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Dear Superintendent Burmaster:

Achieve has completed its final Quality Review of the alignment of the proposed *Wisconsin Model Academic Standards in English Language Arts and Mathematics (May 2009)*. The primary purpose of this final review is to ensure that the state's academic standards for exiting high school align with the expectations for success in college and careers. The American Diploma Project (ADP) Benchmarks to which these Wisconsin standards were compared represent the knowledge and skills required for successful entry into credit-bearing college courses and quality jobs. A secondary purpose of this review is to ensure that the Wisconsin standards meet the criteria of high quality standards that include rigor, coherence, focus, specificity, clarity/accessibility, and measurability.

**The proposed *Wisconsin Model Academic Standards in English Language Arts and Mathematics (May 2009)* present student-learning expectations that are intellectually demanding and well aligned with the ADP Benchmarks.** If Wisconsin students master the state standards, they will likely be well prepared for both workplace and college success.

#### Findings in English Language Arts and Mathematics

1. *The proposed Wisconsin Model Academic Standards in English Language Arts and Mathematics (May 2009) are well aligned with the ADP Benchmarks.*

Wisconsin's standards are consistent with the level of rigor outlined in the ADP Benchmarks for all students. In English, the Wisconsin standards are organized under two major aspects of the discipline – Receptive and Expressive. Expectations described in these two major areas are well aligned

with all ADP Benchmarks including Language, Communication, Writing, Research, Logic, Informational Text, Media, and Literature. Previous gaps in the area of Logic have been addressed in the proposed standards. In mathematics, the Wisconsin standards are organized into three major strands representing Algebraic Reasoning, Geometric Reasoning, and Data Driven Reasoning. Expectations in these strands are well aligned with the ADP Benchmarks in all areas including Number Sense and Numerical Operations, Algebra, Geometry, Data Interpretation, Statistics, and Probability, and Mathematical Reasoning.

In addition, the proposed *Wisconsin Model Academic Standards for English Language Arts and Mathematics* include the complete subset of 22 ADP Core English Benchmarks and the complete subset of 34 ADP Core Mathematics Benchmarks that 19 other states that have completed the alignment process have deemed critical.<sup>1</sup>

2. *The Wisconsin Model Academic Standards in English Language Arts and Mathematics (May 2009) exhibit the criteria of high quality standards.*

The Wisconsin standards fare well against Achieve's other criteria: Coherence, focus, specificity, clarity/accessibility, and measurability in addition to rigor. The state has taken a unique approach to the structure of its standards by identifying only a few over-arching organizers in English language arts (Receptive and Expressive) and mathematics (Algebraic Reasoning, Geometric Reasoning, and Data Driven Reasoning). In both English language arts and mathematics, Wisconsin has addressed student-learning expectations under each of these organizers and in doing so has addressed Achieve's concerns to ensure that the state's expectations reflect a coherent progression of student learning across the high school Grades 9-12. For the most part, expectations for student learning are clear, focused, and measurable and specifically communicate the state's high expectations for its graduates.

Finally, Wisconsin is to be commended for its comprehensive standards revision process that began in March 2007 as the state joined the Achieve Alignment Institute. As part of the Institute process, Wisconsin formed the ADP/P21 English Language Arts and Mathematics Design Teams that included members of the K-12, postsecondary, and business communities who were convened to respond to Achieve's initial analysis as well as to consider input from among various constituency groups across the state. In February 2008, Achieve presented Wisconsin with a Quality Review I of *Wisconsin Model Academic Standards in English Language Arts and Mathematics*. The state then formed English language arts and mathematics writing teams to address Achieve's findings and propose revisions. Achieve has appreciated Wisconsin's organization of this alignment process and the consistent engagement of key constituencies.

In conclusion, by successfully completing these standards, Wisconsin has taken an important step to better prepare young people for success in postsecondary education and in their careers. My Achieve colleagues and I look forward to supporting your further efforts as you continue your work to ensure that Wisconsin's students are prepared for the real world demands they will face upon graduation.

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<sup>1</sup> Out of Many, One: Toward Rigorous Common Core Standards from the Ground Up, Achieve, July 2008, page 7, Table 1: ADP Core in English and page 8, Table 2: ADP Core in Mathematics. <http://www.achieve.org/node/1019>.

Regards,

*Laura M. Slover*

Laura Slover  
Vice President for Content & Policy Research,  
Achieve

LMS:ms

Enclosure

cc: The Honorable Jim Doyle  
Governor

**Achieve Quality Review II**  
***Wisconsin Model Academic Standards in English Language Arts (May 2009)***  
**Detailed Comments from English Language Arts Review Panel**  
**Enclosure A**

Documents Reviewed

In this review, Achieve focuses on the proposed *Wisconsin Model Academic Standards for English Language Arts (May 2009)* and how these standards align with the American Diploma Project (ADP) Benchmarks in English Language Arts.

Review Panel Comments

- **The proposed *Wisconsin Model Academic Standards for English Language Arts (May 2009)* are well aligned with the ADP Benchmarks for English Language Arts. Critical gaps in the area of logic have been addressed.**

Achieve reviewers applaud the state's efforts to create an innovative structure for organizing the discipline of English language arts under two major areas - the expressive and receptive. By using two over-arching statements that describe the expressive and receptive aspects of the discipline to organize student expectations, Wisconsin provides a clear signal to educators about the inter-connectedness and parallels among the language processes. All areas of the ADP Benchmarks including Language, Communication, Writing, Research, Logic, Informational Text, Media, and Literature are now addressed by Wisconsin expectations within these expressive and receptive processes.

The most critical gap in the Wisconsin standards was the lack of expectations that clearly focus on the application and use of logic in examining and constructing arguments. This is now specifically addressed throughout high school as follows:

**9-12 Focus Statement 1: Access, examine, and select informational and argumentative texts for validity, reliability, authenticity and accuracy**

- Evaluate the use of logic and language to determine the validity of information or an argument
- Recognize and analyze manipulative strategies and techniques in arguments and persuasive texts (e.g., logical fallacies, false assumptions, faulty reasoning, etc.)
- Identify the elements of argument (e.g., false premises, claims, evidence, appeals, etc.) and evaluate connections among them

In addition, the proposed *Wisconsin Model Academic Standards for English Language Arts* include the subset of 22 ADP Core English Benchmarks that 19 other states that have completed the alignment process have deemed critical, although a well-prepared high school graduate will have mastered all of the knowledge and skills found in the ADP Benchmarks.<sup>2</sup>

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<sup>2</sup> Out of Many, One: Toward Rigorous Common Core Standards from the Ground Up, Achieve, July 2008, page 7, Table 1: ADP Core in English. See <http://www.achieve.org/node/1019>.

- **The Wisconsin Model Academic Standards for English Language Arts (May 2009) meet the Achieve criteria for quality standards and are clear, focused, logically organized, and measurable. The state’s standards now communicate a clear progression of student expectations across Grades 9-12.**

Wisconsin has made some very basic but meaningful revisions to its standards. Since the document is divided into processes, it was sometimes the case that there was an over-emphasis on process rather than product. In a prior review, Achieve noted that the expectation that “Students adapt a known process or create a new process to generate, select, express, revise, edit and reflect on ideas for a specific text” raised a question about assessing whether students have “adapted a known process or created a new one” and seemed to emphasize the use of the process rather than the actual created text. All of the Wisconsin standards began with the phrase “Students select and use,” with selection seeming to be the essential element, as seen in the following examples:

**Standard (Expressive):** Students select and use various evolving technologies and strategies to **speak, write, and visually represent** multiple types of texts. In these texts, students will engage in critical, creative, and reflective thinking to achieve diverse purposes within local, national, and world communities.

**Standard (Receptive):** Students select and use various evolving technologies and strategies to **listen, read and view** multiple types of texts. With these texts, students will engage in critical creative, and reflective thinking to achieve diverse purposes within local, national, and world communities.

All of the standards have been revised as follows: (underlining indicates revisions)

**Standard (Expressive):** Students **speak, write, and visually represent** multiple types of texts using various evolving technologies and strategies. In these texts, students will engage in critical, creative, and reflective thinking to achieve diverse purposes within local, national, and world communities.

**Standard (Receptive):** Students **listen, read and view** multiple types of texts using various evolving technologies and strategies. With these texts, students will engage in critical, creative, and reflective thinking to achieve diverse purposes within local, national, and world communities.

What may seem to be a minor revision really expresses a major re-visioning of the purpose of the standards, and reinforces the rigor of the statements.

The proposed *Model Academic Standards for English Language Arts* also address problems of measurability due to the all-inclusiveness of the statements in prior draft, as seen in the following example:

**Learning Priority:** Pose reasoned questions and responses

- Students generate informed open-ended questions that strive to understand the complexity of an issue. Responses to these questions are constructed by researching, analyzing and creating texts that explore multiple viewpoints.

The current draft divided this Learning Priority into two statements, (1) Pose reasoned questions and (2) Pose reasoned responses, with the second expectation expressed along the high school continuum as:

- Pose responses by examining provided and found texts, self and others
- Pose responses from multiple viewpoints by researching, analyzing, and creating texts that explore relationships among texts, self and world

Again it is notable that this revision elevates the quality of the response over the methodology of how it is developed. This change now establishes criteria for evaluation of the actual response—rather than focusing on how the response was constructed.

In a similar manner, the small revision in the statements below illustrates the state's clearer vision of product:

- Prior Draft: Use research strategies that have been modeled in the classroom (such as where to find information, Boolean searches, key word versus subject headings, how to identify useful information)
- Current Draft: Use modeled research (e.g. keyword vs. subject heading, Google, Badgerlink, etc.) strategies to explore an assigned topic or a selected topic from a list of choices.

The emphasis shifts from the criteria being those strategies that have been modeled to using the strategies to accomplish something.

Finally, Achieve reviewers applaud the careful consideration the state has given to improving every element of the state's standards, and strongly recommend as the *Model Academic Standards for English Language Arts* are finalized that a numbering or identification system be developed that would facilitate easy reference to the various parts of the standards.

### Conclusion

The proposed *Wisconsin Model Academic Standards for English Language Arts (May 2009)* present student learning expectations that are intellectually demanding and align well to the ADP Benchmarks. The revisions to the prior draft clearly respond to the issues raised in Achieve's Quality Reviews, and the document is now a rigorous, logically organized, focused, and specific communication of the state's high expectations for its graduates.

**Achieve Quality Review II**  
***Wisconsin Model Academic Standards in Mathematics (May 2009)***  
**Detailed Comments from the Mathematics Review Panel**  
**Enclosure B**

Documents Reviewed

In this review, Achieve focuses on the proposed *Wisconsin Model Academic Standards for Mathematics (May 2009)* and how these standards align with the American Diploma Project (ADP) Benchmarks in Mathematics.

Review Panel Comments

- **The proposed *Wisconsin Model Academic Standards for Mathematics (May 2009)* are well aligned with the ADP Benchmarks for Mathematics.**

The feedback provided by Achieve reviewers is reflected in the revised standards across all three strands including: Algebraic Reasoning, Geometric Reasoning, and Data Driven Reasoning. As a result of multiple rounds of revision, Wisconsin has effectively addressed previous issues of non-alignment with the majority of the ADP Benchmarks.

For example, Wisconsin's standards previously had no alignment with the ADP Benchmarks for recognizing and solving problems that can be modeled with geometric series. These ADP Benchmarks clearly state that students should be able to solve problems such as home mortgage and other compound interest problems using geometric series. Wisconsin has responded by proposing to add expectations about geometric series in both the Algebraic Reasoning and Data Driven Reasoning strands. These revised standards will ensure that all students in Wisconsin have the opportunity to learn about a facet of modeling that will better prepare them for college and the workplace.

As a result of the state's comprehensive alignment process, the proposed *Wisconsin Model Academic Standards for Mathematics* for Grades 9-12 now require students to learn the breadth of rigorous mathematics content that is usually found in coursework that culminates at the level of Algebra II.

In addition, the proposed *Wisconsin Model Academic Standards for Mathematics* include the subset of 34 ADP Core Mathematics Benchmarks that 19 other states that have completed the alignment process have deemed critical, although a well-prepared high school graduate will have mastered all of the knowledge and skills found in the ADP Benchmarks.<sup>3</sup>

- **Wisconsin has effectively increased the rigor of expectations for all students.**

Achieve designates Benchmarks with "asterisks" that are recommended for all students but considered to be essential for students who intend to pursue mathematics and science intensive

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<sup>3</sup> Out of Many, One: Toward Rigorous Common Core Standards from the Ground Up, Achieve, July 2008, page 8, Table 2: ADP Core in Mathematics. See <http://www.achieve.org/node/1019>.

majors. Similarly, the Wisconsin standards that are critical for students pursuing postsecondary opportunities and career options in STEM fields are shaded light gray in the continuum (see figure below). As a result of the state’s revision process, all “non-asterisked” ADP Benchmarks align with the proposed *Wisconsin Model Academic Standards for Mathematics* that will be required of all students. For example, in the Quality Review I, Achieve noted that the potential gap in expectations for all students and those identified for students pursuing STEM opportunities appeared particularly wide in the area of Algebra. The most serious gap identified by the Achieve reviewers was that all students needed to be able to factor polynomials by removing the greatest common factor and to factor quadratic polynomials. The revised standards now require all students to “solve quadratic equations and inequalities symbolically” using factoring, among other methods.

- **Wisconsin has enhanced the organization, focus, clarity and progression of its revised high school standards. This should ensure that the standards are more accessible for educators and non-educators alike as well as useful for teachers and curriculum developers.**

Wisconsin is to be commended for steps taken to add clarity and focus to the proposed *Wisconsin Model Academic Standards for Mathematics*. Most significantly, the standards are now organized by strand in a clear progression, rather than by grade level. This means that teachers and curriculum developers alike are able to organize the delivery of content in a variety of structures appropriate to students’ needs while maintaining fidelity with the Wisconsin standards. For example, the following progression of content can be found within the Algebraic Reasoning strand concerning the representations of functions:

Stage 1:	Stage 2:	Stage 3:	Stage 4:
<ul style="list-style-type: none"> <li>• Explain whether a relation given in symbolic, graphical or tabular form is a function.</li> </ul>	<ul style="list-style-type: none"> <li>• Identify and summarize properties of different types of functions from their graphs including linear, quadratic, exponential, absolute value, sine and cosine trigonometric functions.</li> </ul>	<ul style="list-style-type: none"> <li>• Create and interpret different representations including numerical, graphical, and functional notation of the functions in Stage 2.</li> <li>• Analyze and communicate, with and without the use of technology, the effect of transformations on the graphical representations of different types of functions.</li> </ul>	<ul style="list-style-type: none"> <li>• Identify, summarize, and interpret properties and create different representations of polynomial, step, and other trigonometric functions.</li> </ul>

The content is clearly organized and the progression is both coherent and apparent enabling school district personnel to be able to effectively attend to each bullet within their course designs.



Achieve reviewers suggested that sample problems could clarify the expected level of cognitive demand within strands at various stages of student performance. Supplementary materials, including sample problems and tasks that cut across the different domains of mathematics, would reinforce mathematical connections and demonstrate the application of the mathematical processes. This may include an updating of Wisconsin's *Planning Curriculum in Mathematics* document to reflect the proposed *Model Academic Standards for Mathematics*.

Finally, Wisconsin has improved the consistency of grain size and the overall clarity of the proposed *Model Academic Standards for Mathematics*. As noted in the Quality Review I, variation in grain size existed throughout the previous version of the Wisconsin standards. For example, one bullet within a geometry standard stated, "estimation," while another stated, "techniques of algebra, geometry, and right triangle trigonometry." Both statements were ambiguous, and the second connoted a larger scope of content than the first. The revised standards are by comparison, significantly more consistent and specific as seen in the following bulleted statements for Geometric Reasoning, "Derive the equation of a circle given its center and radius," and, "Derive the center and radius given the equation of a circle."

### Conclusion

The proposed *Wisconsin Model Academic Standards for Mathematics* are intellectually demanding, align well with the ADP Benchmarks, and establish a strong progression for student learning in high school mathematics across Grades 9-12. Students achieving proficiency in these standards will be well prepared for success in college and career.